Mawlana Bhashani Science And Technology University

Lab-Report

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Submitted By:

Name:Md.Mehedi Hasan Tipu

ID:IT-18046

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Dept. of ICT

MBSTU

Submitted To:

Nazrul Islam

Assistant Professor

Dept. of ICT

MBSTU

First In First Out (FIFO) page replacement algorithm

This is the simplest page replacement algorithm. In this algorithm, operating system keeps track of all pages in the memory in a queue, oldest page is in the front of the queue. When a page needs to be replaced page in the front of the queue is selected for removal.

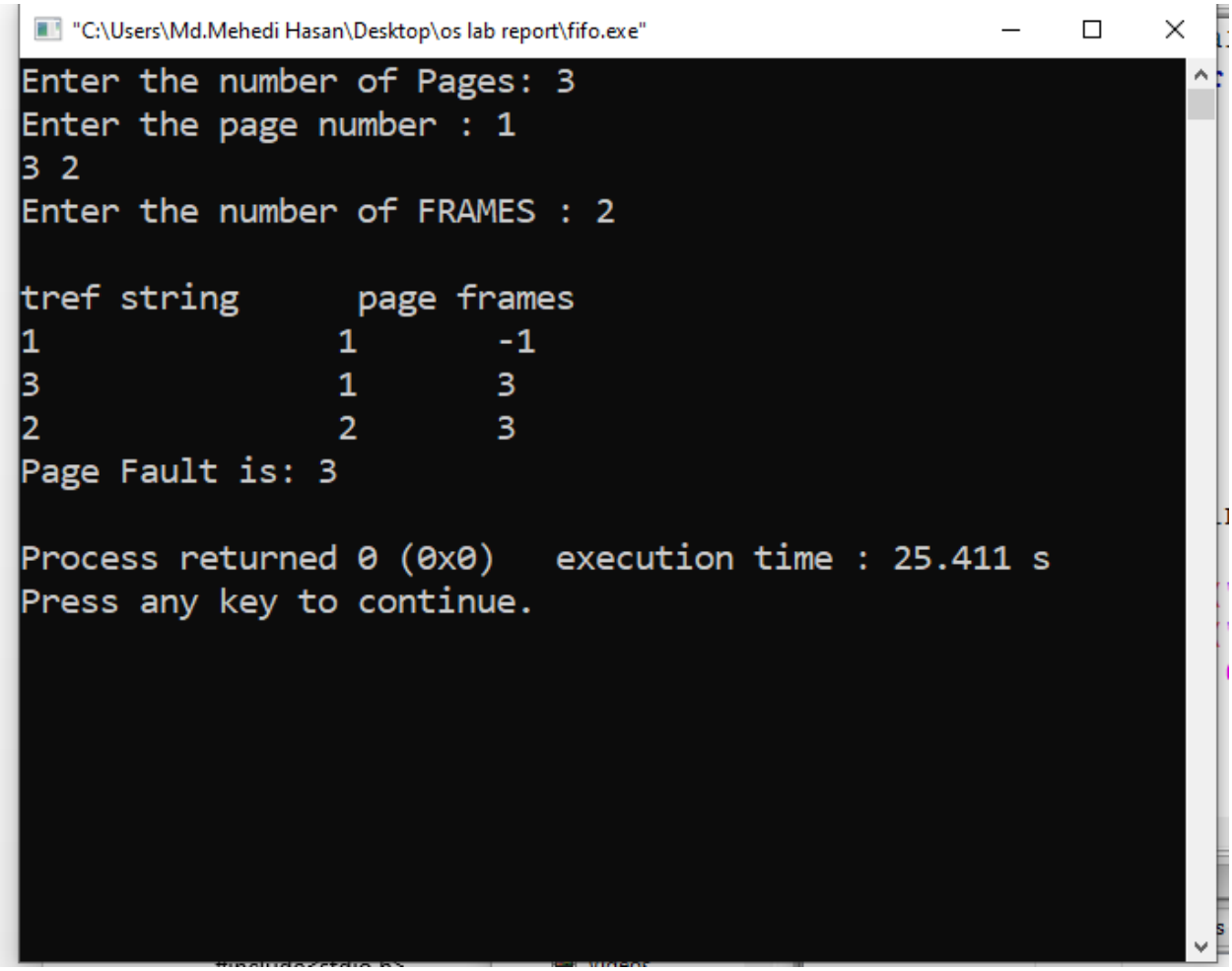
Example -1. Consider page reference string 1, 3, 0, 3, 5, 6 and 3 page slots.
Initially all slots are empty, so when 1, 3, 0 came they are allocated to the empty slots —> 3 **Page Faults.**
when 3 comes, it is already in memory so —> 0 Page Faults.
Then 5 comes, it is not available in memory so it replaces the oldest page slot i.e 1. —>1 **Page Fault.**
Finally 6 comes, it is also not available in memory so it replaces the oldest page slot i.e 3 —>1 **Page Fault.**

Code implementation:

```
#include<stdio.h>

int main()

{

   int i,j,n,a[50],frame[10],no,k,avail,count=0;

   printf("Enter the number of Pages: ");

   scanf("%d",&n);

   printf("Enter the page number : ");

   for(i=1; i<=n; i++)

      scanf("%d",&a[i]);

   printf("Enter the number of FRAMES : ");

   scanf("%d",&no);

   for(i=0; i<no; i++)

      frame[i]= -1;

   j=0;
```

```
    printf("\n");
    printf("tref string\t page frames\n");
    for(i=1; i<=n; i++)
    {
        printf("%d\t\t",a[i]);
        avail=0;
        for(k=0; k<no; k++)
            if(frame[k]==a[i])
                avail=1;
        if (avail==0)
        {
            frame[j]=a[i];
            j=(j+1)%no;
            count++;
            for(k=0; k<no; k++)
                printf("%d\t",frame[k]);
        }
        printf("\n");
    }
    printf("Page Fault is: %d",count);
    printf("\n");
    return 0;
}
```

Output:



Discussion:

This is the simplest page replacement algorithm. In this algorithm, the operating system keeps track of all pages in the memory in a queue, the oldest page is in the front of the queue. When a page needs to be replaced page in the front of the queue is selected for removal.